

IN THE CLAIMS:

Please amend the claims as follows:

Claim 1 (Currently amended): A method of monitoring the location of a mining vehicle in a mine, the method comprising:

determining data on the location of at least one mining vehicle (~~1, 1a, 1b~~) in the mine ~~[[17]]~~;

transmitting the location data to a mine control system ~~[[11]]~~; ~~[[and]]~~

employing the obtained location data in the mine control system ~~[[11]]~~ for monitoring the operation of the mining vehicle (~~1, 1a, 1b~~);

~~characterized by~~

forming at least one first section ~~[[17]]~~ and at least one second section ~~[[21]]~~ in the mine;

creating at least one wireless network ~~[[10]]~~ for the first mine section (~~18, 20~~) which communicates with the mine control system ~~[[11]]~~ and includes at least one base station (~~13, 13a to 13e~~) for establishing a data communication connection between the mining vehicle (~~1, 1a, 1b~~) and the wireless network ~~[[10]]~~, the mining vehicle (~~1, 1a, 1b~~) being in the coverage area of at least one base station (~~13, 13a to 13e~~) in the first mine section (~~18, 20~~);

arranging at least one base station ~~[[13d]]~~ in the second mine section ~~[[21]]~~ for establishing a data communication connection between the mining vehicle (~~1, 1a, 1b~~) and the wireless network ~~[[10]]~~;

determining the location of the mining vehicle (~~1, 1a, 1b~~) in the first mine section (~~18, 20~~) by means of positioning performed in the wireless network ~~[[10]]~~;

and determining the location of the mining vehicle (1, 1a, 1b) in the second mine section [(21)] by at least one measuring device provided in the mining vehicle (1, 1a, 1b) and transmitting the location data to the mine control system [(11)] over the wireless network [(10)].

Claim 2 (Currently amended): A method according to claim 1, comprising:
characterized by
determining the location of the mining vehicle (1, 1a, 1b) in the second mine section [(21)] by calculating the distance [(M)] travelled and determining the direction [(S)] of travel.

Claim 3 (Currently amended): A method according to claim 1, comprising: or 2,
characterized by
monitoring the location of a manned mining vehicle (1, 1a, 1b) in the mine [(17)],
and transmitting instructions to the operator [(16)] of the mining vehicle (1, 1a, 1b) on the basis of the monitoring carried out.

Claim 4 (Currently amended): A method according to claim 1, comprising: any one of
the preceding claims, characterized by
forming the first mine section in a connecting tunnel [(20)],
and forming the second mine section in a production tunnel [(21)].

Claim 5 (Currently amended): A method according to claim 1, comprising: any one of the preceding claims, characterized by

determining the location of the mining vehicle (1, 1a, 1b) continuously by at least one measuring device provided in the mining vehicle,

comparing the location determined by the measuring device with the location determined by the wireless network [(10)] when in the first mine section (18, 20),

and updating the location of the mining vehicle (1, 1a, 1b) to correspond to the location determined by the wireless network [(10)].

Claim 6 (Currently amended): A method according to claim 1, comprising: any one of the preceding claims, characterized by

placing additional base stations [(13e)] belonging to the wireless network in predetermined critical locations [(22)] in the mine [(17)],

and registering the visits of the mining vehicle (1, 1a, 1b) to the coverage area of the additional base stations [(13e)] in the mine control system [(11)].

Claim 7 (Currently amended): A system for monitoring the location of a mining vehicle in a mine, the system comprising:

means for determining the location of the mining vehicle (1, 1a, 1b);

a mine control system [(11)];

at least one control unit [(8)] arranged in the mining vehicle;

at least one wireless network [(10)] for data transmission between the control unit [(8)] of the mining vehicle and the mine control system [(11)];

at least one base station (13, 13a to 13e) for creating a wireless network [(10)],

characterized in that

and wherein,

the mine [(17)] comprises at least one first section (18, 20) provided with at least one wireless network [(10)], the mining vehicle (1, 1a, 1b) being in the coverage area of at least one base station (13, 13a to 13e) in the first mine section (18, 20);

the mine [(17)] comprises at least one second section [(21)] provided with at least one base station [(13d)] for establishing a data communication connection between the control unit [(8)] of the mining vehicle and the mine control system [(11)];

the location of the mining vehicle (1, 1a, 1b) in the first mine portion (18, 20) is arranged to be determined using positioning performed in the wireless network [(10)];

the location of the mining vehicle (1, 1a, 1b) in the second mine portion [(21)] is arranged to be determined by at least one measuring device provided in the mining vehicle (1, 1a, 1b),

and wherein location data are arranged to be transmitted in the second mine section [(21)] over the wireless network [(10)] from the mining vehicle (1, 1a, 1b) to the mine control system [(11)].

Claim 8 (Currently amended): A system according to claim 7, wherein **characterized in that**

the wireless network [(10)] is a radio telephone network.

9. A system according to claim 7, wherein ~~or 8, characterized in that~~

the mining vehicle ~~(1, 1a, 1b)~~ comprises at least one measuring device for determining the distance ~~[(M)]~~ travelled and at least one measuring device for determining the direction ~~[(S)]~~.

Claim 10 (Currently amended): A system according to claim 7, wherein ~~to 9,~~
~~characterized in that~~
the first mine section ~~(18, 20)~~ is provided with at least one predetermined critical location ~~[(22)]~~,
and at least one additional base station ~~[(13e)]~~ is arranged in the immediate vicinity of the critical location ~~[(22)]~~.

Claim 11 (Currently amended): A system according to claim 7, wherein ~~any one of~~
~~preceding claims 7 to 10, characterized in that~~
the positioning to be performed in the wireless network ~~[(10)]~~ is arranged to be carried out on the basis of the location of the base station ~~(13, 13a to 13e)~~.